

dance with various embodiments of the invention can be as good, or even better, than what a user experiences in a movie theatre.

The invention can be implemented in digital electronic circuitry, or in computer hardware, firmware, software, or in combinations of them. Apparatus of the invention can be implemented in a computer program product tangibly embodied in a machine-readable storage device for execution by a programmable processor; and method steps of the invention can be performed by a programmable processor executing a program of instructions to perform functions of the invention by operating on input data and generating output. The invention can be implemented advantageously in one or more computer programs that are executable on a programmable system including at least one programmable processor coupled to receive data and instructions from, and to transmit data and instructions to, a data storage system, at least one input device, and at least one output device. Each computer program can be implemented in a high-level procedural or object-oriented programming language, or in assembly or machine language if desired; and in any case, the language can be a compiled or interpreted language. Suitable processors include, by way of example, both general and special purpose microprocessors. Generally, a processor will receive instructions and data from a read-only memory and/or a random access memory. Generally, a computer will include one or more mass storage devices for storing data files; such devices include magnetic disks, such as internal hard disks and removable disks; magneto-optical disks; and optical disks. Storage devices suitable for tangibly embodying computer program instructions and data include all forms of non-volatile memory, including by way of example semiconductor memory devices, such as EPROM, EEPROM, and flash memory devices; magnetic disks such as internal hard disks and removable disks; magneto-optical disks; and CD-ROM disks. Any of the foregoing can be supplemented by, or incorporated in, ASICs (application-specific integrated circuits).

To provide for interaction with a user, the invention can be implemented on a computer system having a display device such as a monitor or LCD screen for displaying information to the user. The user can provide input to the computer system through various input devices such as a keyboard and a pointing device, such as a mouse, a trackball, a microphone, a touch-sensitive display, a transducer card reader, a magnetic or paper tape reader, a tablet, a stylus, a voice or handwriting recognizer, or any other well-known input device such as, of course, other computers. The computer system can be programmed to provide a graphical user interface through which computer programs interact with users.

Finally, the processor optionally can be coupled to a computer or telecommunications network, for example, an Internet network, or an intranet network, using a network connection, through which the processor can receive information from the network, or might output information to the network in the course of performing the above-described method steps. Such information, which is often represented as a sequence of instructions to be executed using the processor, may be received from and outputted to the network, for example, in the form of a computer data signal embodied in a carrier wave. The above-described devices and materials will be familiar to those of skill in the computer hardware and software arts.

The present invention employs various computer-implemented operations involving data stored in computer systems. These operations include, but are not limited to, those requiring physical manipulation of physical quantities. Usually, though not necessarily, these quantities take the form of

electrical or magnetic signals capable of being stored, transferred, combined, compared, and otherwise manipulated. The operations described herein that form part of the invention are often referred to in terms, such as, producing, identifying, running, determining, comparing, executing, downloading, or detecting. It is sometimes convenient, principally for reasons of common usage, to refer to these electrical or magnetic signals as bits, values, elements, variables, characters, data, or the like. It should be remembered however, that all of these and similar terms are to be associated with the appropriate physical quantities and are merely convenient labels applied to these quantities.

A number of implementations of the invention have been described. Nevertheless, it will be understood that various modifications may be made without departing from the spirit and scope of the invention. For example, the periphery displays can be used to create blurred images to coordinate with the main image. The periphery displays can also create non-active images similar to a frame which would enhance the main image in a different manner. The periphery displays can also create "anti-periphery" images or colors which technically enhance the image albeit not favorably. Accordingly, other embodiments are within the scope of the following claims.

The invention claimed is:

1. A head-mounted display apparatus comprising:
 - a display operable to project an image viewable by a user;
 - a peripheral light element positioned to emit light of one or more colors in close proximity to the periphery of the display; and
 - a processor operable to:
 - receive data representing a source image;
 - generate, based on the data representing the source image, a display image;
 - generate, based at least in part on the data representing the source image, a set of peripheral conditioning signals to control colors emitted from the peripheral light element;
 - cause the display image to be displayed by the display; and
 - cause the set of peripheral conditioning signals to control the peripheral light element.
2. The head-mounted display apparatus of claim 1, wherein the processor is operable to receive data representing the source image from an external source.
3. The head-mounted display apparatus of claim 2, wherein the processor is operable to receive the data from a portable external source including a memory storing the source image.
4. The head-mounted display apparatus of claim 1, further comprising:
 - a memory device storing the data representing the source image, the memory device operatively coupled to the processor.
5. The head-mounted display apparatus of claim 1, wherein the display has an aspect ratio of 16/9.
6. The head-mounted display apparatus of claim 1, wherein the data representing the source image includes a plurality of image frames of a movie.
7. The head-mounted display apparatus of claim 1, wherein the processor is operable to generate the set of peripheral conditioning signals including instructions to control which one or more colors displayed by the peripheral light element.
8. The head-mounted display apparatus of claim 7, wherein the processor is operable to generate the set of peripheral